Polling System – System Design Document

Brandon Read

April 10th, 2023

SAAD 1001

## SWOT Analysis

|  |  |
| --- | --- |
| Strengths   * Accessible to those who would find it hard to make it to a physical polling station. * Flexible around people’s work schedules. * New but dedicated developer * A team that truly cares about the result | Weaknesses   * Security is a risk at a bigger scale than a physical location. * Less accessible to those that aren’t technologically literate or have access to the internet. * Low starting capital |
| Opportunities   * The base system could be widely adopted if successful. * Increasing need for online voting with our faster paced lives. * Online polling has received a lot of attention in the news so it’s on peoples’ minds. | Threats   * Competition from other polling systems. * A lot of the news coverage for online polling has been negative. * Currently experiencing inflation so hiring talent and spending money is going to require more capital. |

## SDLC & Project Planning

I will be following the Agile model for my SDLC. As this software is the first step towards creating a fully working polling system. Seems like Agile would be a great fit for this model therefore, as I see multiple iterations of work happening on the app after the deliverable for the assignment to get it fully working. This assignment will be treated like one iteration as the working features will be minimal and by the end of the project I have to present my work to show how it functions similar to how I’d have to show the customer. These planning phases consist of planning, requirements analysis and designing, then building and testing before showing the iteration to the customer.

Scope: Polling system for voting through the console. User and admin have separate output they can see and tasks. User validation and ability for users to vote. Error handling and explanation for invalid users.

* Like the admin, the polling officer can fix issues related to voting or candidates.
* Flow chart, sample test scenario, test credentials to log in and guide to polling officer to fix issues related to polling will also be included.
* Work breakdown structure: Three different accounts for polling officer, admin and user. Username and password verification along with error messages if info doesn’t match up.
* Polling officer can see votes, fix issues related to voting or candidates.
* Admin can fix account issues for users and report issues to the polling officer.
* Users can vote and report issues.
* Every account can change their account details.

Features to add: User can change info. Have option through account, while logged in to change password. Forgot password option similar. Simulated email verification with a code given to the person if their email matches, they type it in to change password if forgotten, their email is changed, or they register.

Registering user: First name, Last name, address, email, and password. -> Create a struct.

Schedule: About three weeks. First week will be getting the things done that are strictly needed, the second week will be the things to add, and the final week will be wrap up and testing.

Resource Planning: this will be a one-man project. As such I must motivate myself to do the work instead of relying on others.

Budget Planning Expecting 25–35-man hours for this project with everything accounted for. No monetary cost.

Risk management: The biggest risk around this is my own schedule. Life sometimes happens so I’ve given myself a fair amount of extra time to complete the project. Gives me time to break through any obstacles I face in making this program.

Quality planning: I want to go above and beyond the expectations but apart from a couple simple additions, which I think of at the start, I will be keeping it close to the stated requirements to give myself time for other projects undertaken simultaneously. The goal here is to deliver a quality product but avoid scope creep which I can easily find myself drawn into. The guiding document for quality of the product will be the rubric included with the assignment.

Communication Planning: I will be submitting a recording of myself explaining both my planning steps and the program itself. My internet is poor so I will need to give myself some extra time to allow for this communication to work!

## Use Case Diagram

Below is figure 1, the use case diagram for the polling system.

Diagram

Description automatically generated

Figure : Use Case UML Diagram

## Test Cases

Test Cases: Can user/admin/officer login in with correct login info?

What happens when user attempts login with incorrect username or password?

Empty response?

Correct/Incorrect input for options?

Empty response for options?

Empty response for any option or login?

Does logout cause issues with logging in (saved variables that need to be reset)?

Does changing password or details while in the app cause permanent changes?

Able to view info, multiple times, with different users without shutting down app?

Is voting only allowed for verified accounts?

Is polling officer able to count votes?

## Other UML Diagrams

Diagram

Description automatically generated